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PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Single Use Liquid Applicator Package and method for producing same

- We, KNOMARK, INC., a Corporation organized under the laws of the State of New York, United States of America, of 132—20 Merrick Boulevard, Springfield Gardens 34, State of New York, United States of America, do hereby declare the invention, for which we pray that a Patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—
- The present invention relates to single use applicator packages and a method of making the same.
- An object of the invention has been to provide a single use package which carries a pre-determined quantity of a useful material in liquid form at least sufficient under usual circumstances for a single application. A package of this kind is more particularly adapted for employment in the distribution, sale and use of shoe polishes, cosmetics, or other commodities supplied in liquid form in small portions to be applied manually by means of an applicator or the like. Developments in liquid, polish compositions, for example, have produced a product which when applied by an applicator or dabber and allowed to dry, presents a satisfactory glossy or shiny surface without the subsequent rubbing or polishing commonly needed in the use of known types of paste polishes.
- A further object has been to provide a package which can be assembled, transported and handled advantageously under widely varying conditions. Thus, such a package effectively protects the contents, affords easy access thereto, and provides disposable means whereby the user can conveniently apply the liquid contents with minimum likelihood of waste, spilling or soiling the hands.
- It has also been an object to provide a container which can be made in part from relatively light sheet metal, such as aluminum foil, but which affords effective resistance to collapse under normal pressure in use.
- A further object has been to provide a cover for said container which carries on its under side an absorbent pad charged with a supply of the substance to be applied, said cover and pad constituting in effect an applicator or dabber.
- Also to facilitate access to the contents, an object has been to provide effective sealing contact of the cover with the container sufficient to adequately protect the contents but which is such that the cover can be readily removed intact.
- According to the present invention there is provided a single use applicator package, comprising a generally disk-shaped open top container formed of a flexible sheet material, said container having a radially extending peripheral flange, a cover formed of flexible and substantially liquid-impervious laminated sheet material detachably sealed to the flange portion of said container, said cover having a layer of metal foil on its inner face and an absorbent pad adhered to said metal foil layer, a supply of the liquid to be applied being carried in and substantially saturating said absorbent pad, and said cover being provided with a finger grip which extends radially beyond an edge portion of said flange to permit ready removal of said cover from said container.
- The present invention also provides a method for producing a single use applicator package, comprising providing a cover of flexible and substantially liquid-impervious laminated sheet material having a layer of metal foil on one face and a dry absorbent pad in a compressed condition secured to said face of metal foil, providing a generally disk-shaped open top container of flexible sheet material with a supply of the liquid to be applied disposed therewithin, applying said cover in sealing relation across the open top of said container such that said pad extends

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into the container and absorbs substantially the entire supply of said liquid when it is in its expanded condition.

In order that the invention may be more fully understood it will now be described by way of example, with reference to the accompanying drawings in which:

Figure 1 is a top plan view with portions of the cover broken away;

Figure 2, a central transverse section on the line 2—2 of Fig. 1;

Figure 3, a similar view of a modified form of package;

Figure 4 a top plan view from the line 4—4 of the container portion of the package shown in Fig. 3;

Figure 5, a schematic view illustrating the step of heat sealing an absorbent pad in compressed condition to the underside of a sheet of cover forming material as a laminate of paper and aluminum foil; and

Figure 6, a similar view illustrating the step of heat sealing the cover material to the top edge or rim portion of a container having in it a supply of liquid to be absorbed in the pad.

As seen in the drawings, Figs. 1, 2 and 3, the completed package or kit includes a generally dish shaped open container 10, 10¹ preferably of flexible sheet material, as a laminate of paper and aluminum foil of .001 gauge for example. Said container 10 is provided at its top edge with a radially extending peripheral flange having a rolled reinforcing edge or rim 11 surrounding a relatively flat shoulder 12.

As seen in Fig. 2, the top surface portions of said rim 11 and shoulder 12 are so arranged that, when cover 13 is sealed to said peripheral flanges, as by an adhesive layer 14 on said cover, it will be engaged along a zone of contact sufficient to ensure an effective closure while permitting relatively easy removal of the cover from the flange.

The cover 13, before being applied to container 10, is provided with a dry absorbent pad 15, Fig. 5, as of a synthetic sponge material, in relatively flat compressed condition. When this cover is sealed to the container in the position as seen in Fig. 2 and as hereinafter described, pad 15 is brought into contact with a supply of a liquid material, as shoe polish, for example and thereupon expands to the condition approximately as seen at 15a in Fig. 2, simultaneously absorbing and then retaining said liquid supply. The volume of liquid in relation to the absorbent capacity of the pad is such that substantially all of the liquid is taken up by the pad so that there will be no excess to spill out when cover 13 is removed in use. Removal of the cover 13 from sealing contact with said peripheral flange is facilitated by providing it with a finger grip or flap 18 which also aids in holding the cover and pad when in use as an applicator or dabber.

In the form of package shown in Figs. 3 and 4, the container 10¹ has a flat peripheral

rim or flange 20 provided with a tab 21 extending radially from one side opposite a correspondingly shaped and dimensioned grip or flap 18¹ forming part of the composite package cover. In this embodiment, the absorbent pad 15a is adhered to the underside of the cover as in the device shown in Fig. 2. However, separation of the cover from the flat rim 20 of the container 10¹ and its subsequent use are facilitated by the provision of tab 21 having its outer end free or separate from opposed portions of the flap 18¹ so that the cover may be stripped from container 10¹ by grasping tab 21 between the thumb and forefinger of one hand while lifting flap 18¹ with the other. When the cover and pad are removed from the container, they serve as a dabber with the flap 18¹ providing a convenient finger hold.

An effective method of making the package above described includes the steps of securing the compressed pad 15 to cover 13 by means of a suitable adhesive coating 14 on said cover, i.e. one which will effectively retain the pad and will not be impaired by the liquid material in the package and which will not adversely affect said contents. This cover unit comprising cover 13 and pad 15 is also heat sealed through coating 14 to the rim 11 to effectively close container 10 with the liquid supply 17 in place. Pad 15 is thus brought into absorbing contact with said liquid and swells to expanded condition, 15a, as seen in Fig. 2.

For an effective shoe polish package, for example, the cover material may advantageously be a laminate of 60 lb. paper stock of a kind to resist blister and charring up to 500°F. applied for one second under 500 lb. psi pressure, said paper being laminated to a sheet of aluminum foil of .001 gauge and said foil having on its free surface a coating of a suitable heat sensitive adhesive. Such a coating may be one produced by applying a solution of 1 lb. of solid in a quantity of solvent or vehicle, which will cover approximately 72000 sq. ft. of surface. Among material satisfactory for this purpose are for example polyvinyl chloride, polyvinyl acetate, and polyethylene.

As seen in Fig. 5, the compressed pad, as 15, is adhered to the composite cover material by applying heat and pressure to the latter while pad 15 is supported on a rigid surface, as the top of a platen 22. Where the adhesive layer or coating 14 is of the character above indicated, die 23 is heated to produce an adhesive softening temperature of between 400—475° F. opposite pad 15 and at the same time pressure of from 100—200 lbs. psi is applied in the direction of the arrow, Fig. 5, for approximately one second. In general variations from these temperatures and pressures may be employed on the basis that a higher temperature within the indicated range will permit the use of lower pressure and/or a shorter period of application, as will be well

understood by persons skilled in the heat sealing art.

5 The container 10, Fig. 6, is charged with a supply 17 of the liquid to be packaged and is supported by suitable means as a rigid base 25 having portions of its top surface contoured to accommodate said container.

10 The cover unit including pad 15 is now sealed to the top surface of the peripheral flange, Fig. 2, or of rim 20, in the case of the modification seen in Figs. 3 and 4. For this purpose, die 24, Fig. 6, is heated to produce a sealing temperature of 375—425° F; and said die is pressed down (see arrows) against portions of the cover which overlie and bear against said flange of container 10 at from 15 100 to 200 lbs psi for approximately on second, or under such conditions that an effective seal is produced between container and cover without impairment of the package parts or of its liquid contents. To use the cover and 20 dabber of the above described package, the outer end of finger grip or flap 18 is bent inwardly or upwardly to provide a clean finger hold at the outer side of cover 13 and so out of the way of the polish carrying pad 15a when it is exposed on removing cover 13 from contact with rim 11. When the liquid contents of the pad, or any desired part thereof, have 25 been applied to shoes or the like, for example, the disassembled package parts are conveniently disposed of as waste.

WHAT WE CLAIM IS:—

35 1. A single use applicator package, comprising a generally disk-shaped open top container formed of a flexible sheet material, said container having a radially extending peripheral flange, a cover formed of flexible and substantially liquid-impervious laminated sheet material detachably sealed to the flange portion of said container, said cover having a layer of metal foil on its inner face and an absorbent pad adhered to said metal foil layer, a supply of the liquid to be applied being 40 carried in and substantially saturating said absorbent pad, and said cover being provided with a finger grip to permit ready removal of said cover from said container.

2. An applicator package according to claim 1, wherein said flange is provided with a rolled reinforcing rim at its outer periphery surrounding a relatively flat shoulder surface, said cover being adhesively secured to said shoulder. 50

3. An applicator package according to claim 1 or 2, wherein said cover is formed of paper stock laminated to a sheet of aluminum foil. 55

4. An applicator package according to any one of claims 1 to 3, wherein the liquid which saturates said pad comprises shoe polish or a cosmetic. 60

5. A single use applicator package substantially as hereinbefore described with reference to the accompanying drawing.

6. A method for producing a single use applicator package, comprising providing a cover of flexible and substantially liquid-impervious laminated sheet material having a layer of metal foil on one face and a dry absorbent pad in a compressed condition secured to said face of metal foil, providing a generally disk-shaped open top container of flexible sheet material with a supply of the liquid to be applied disposed therewithin, applying said cover in sealing relation across the open top of said container such that said pad extends into the container and absorbs substantially the entire supply of said liquid when it is in its expanded condition. 65 70 75

7. A method according to claim 6, wherein said cover is adhesively secured to said container by means of an adhesive material interposed between said metal foil face and an underlying relatively flat shoulder surface of the container. 80 85

8. A method according to claim 6 or 7, wherein said liquid is shoe polish or a cosmetic.

9. A method for producing a single use applicator package substantially as hereinbefore described with reference to the accompanying drawing. 90

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COMPLETE SPECIFICATION

1 SHEET

This drawing is a reproduction of
the Original on a reduced scale

